

JOB DESCRIPTION FOR PROFESSIONAL POSTS**Part I. GENERAL DATA**

1. This job description is being submitted for the purpose of:

- a) Requesting a review of the classification
- b) Issuing a vacancy announcement
- c) Redescribing the duties of an existing post
- d) Other (please explain): **Cost Free Expert (CFE)**

2. Location of post:

- a) Department **Department of Safeguards**
- b) Division **Division of Technical Support (SGTS)
SGTS Director's Office (SGTDO)
Project SGTS-08**
- c) Section **-**
- d) Unit **-**

3. Functional title and current grade of post:

Functional title	CFE: Nuclear Technology Specialist
Post grade	P5
CCOG1	Nuclear Technology Specialist
CCOG2	

4. Present incumbent's name:

N/A

Former incumbent's name:

N/A

5. Incumbent's supervisor:

- a) Name **WHICHELO JULIAN**
- b) Functional title **Project Manager, SGTS-08**
- c) Grade **P5**

6. Date post was last reviewed (or established, if new post):

New Post

7. List the major changes in the duties of the post which have taken place since the last review. Note that existing posts will not be reviewed for reclassification purposes unless the duties and responsibilities have changed substantially since the current grading of the post was established and appear to be of a lasting nature. For reclassification procedures please refer to AM II/3, paragraphs 31-34.

The Department of Safeguards, under General Conference Resolutions, by statements made by the Director General, and as a consequence of the Agency's Medium Term Strategy has been requested to identify and develop novel technologies for the detection of undeclared facilities, materials and activities. To address that request, the Department's Division of Technical Support (SGTS) established Project SGTS-08 (*Novel Techniques and Instruments for Detection of Undeclared Nuclear Facilities, Material and Activities*).

The SGTS-08 Project team will comprise safeguards technologists, specialists in nuclear processes and experts in the technologies needed for the detection and monitoring of nuclear processes. The teams will identify IAEA needs, assess technology options and recommend appropriate technologies that will meet IAEA verification and detection needs.

8. Please show under this item the organizational structure of the Division. This can be done easily by inserting in the blank boxes the appropriate information. The "organizational" chart should show specifically (a) where the post is located in the hierarchy of the Department, (b) who reports to the post holder, (c) to whom the post holder reports.

Department level	DDG-SG
Division level	DIR-SGTS Project Manager, SGTS-08
Section level	-
Unit level	-

9. Please list characteristic quantitative data relevant to the post.

For example, in the case of an Editor, the number of pages edited may be of relevance for determining time spent on a task.

Under the general direction of the SGTS-08 Project Manager, the CFE post-holder will be a scientist, or engineer, knowledgeable and experienced in the processes involved in the nuclear fuel cycle (NFC), deriving specific safeguards needs, assessing proposals for novel techniques, seeking and

identifying appropriate techniques and instruments meeting end-user requirements, providing technical feedback and recommendations to the Department on equipment and technique evaluations.

10. What are the main purposes (objectives) of the post? (Overall role/functions of the post with stress being placed on the more important aspects.)

To provide technical support to Departmental efforts aimed at improving the effectiveness of the Agency's detection of undeclared facilities, materials and activities using novel techniques.

Part II. JOB DESCRIPTION

Guidelines for Preparation:

This form is intended to obtain information about the job and not about the individual who may occupy the job, although it may be difficult to separate the job from the incumbent. Supervisors should ensure that the form describes the characteristics of the job that needs to be done and not the characteristics of the person doing the job. It is suggested that the description of each major duty begin with an action verb.

READ THROUGH THE ENTIRE FORM BEFORE STARTING TO COMPLETE IT

1. Summarize the major duties and responsibilities of the position in order of importance and indicate in the margin the percentage of time spent on each (most jobs contain no more than 5 or 6 major responsibilities). First state what is being done, then how it is being done.

Under the general direction of the SGTS-08 Project Manager, and with reference to Departmental strategic objectives for safeguards implementation, the CFE will undertake the following major duties:

Provide specific technical input to, and manage development tasks within, Project SGTS-08. In particular:

- 70%
- **Assist in the solicitation and compilation of Departmental needs aimed at improving the effectiveness of the Agency's detection of undeclared materials and activities.**
 - **Examine existing proposals, or novel techniques and instruments that can be used by IAEA inspectors during complementary access visits, unannounced inspections or generally, to explore for the presence of undeclared nuclear activities. Wherever technically possible, cost-effective and appropriate to defined needs, propose how to adapt existing safeguards or commercially available instruments.**
 - **Provide expert assistance, to identify gaps in the Agency's inspection and verification support technologies.**
 - **Provide expert assistance in the review of nuclear processes (including mining and milling, conversion, enrichment, fuel fabrication, reactor operation, heavy water production, reprocessing, hot cell operations, operations at nuclear R&D facilities and the development of explosive**

devices), and in the definition of candidate useful signatures and indicators that may be used by the IAEA to detect undeclared nuclear activities

- Solicit and evaluate possible candidate techniques
- Provide expert assistance in the evaluation of novel candidate techniques that may be adopted by the Agency for verification and detection applications.
- Provide recommendations regarding needs for further research and development and the level of future support required.

10% Participate as necessary in technical and other advisory meetings.

10% As required and authorized, participate in field evaluation and equipment test activities.

10% As necessary, train staff and assist in the establishment of appropriate training courses in monitoring and detection techniques for the Division.

2. What are the minimum knowledge requirements of the job? (These need not be equivalent to those of the present incumbent.)

Level and field of study of university degree (or the equivalent acquired through training or self-study)

Advanced university degree in engineering, nuclear science or physics.

Minimum length and type of practical experience required:

- at national level:

At least six years' working experience with a broad range of nuclear fuel cycle processes, particularly those associated with reprocessing, enrichment, conversion, reactor operation, hot-cell operations, and their associated technologies. It would be advantageous for the CFE to be experienced in the following:

- Safeguards approaches, including inspection and verification activities
- Design information verification
- Safeguards monitoring and verification technologies
- Detection of undeclared activities
- Project management and technical report writing

+ - at international level:

At least four years' working experience with a broad range of nuclear fuel cycle processes, particularly those associated with reprocessing,

enrichment, conversion, reactor operation, hot-cell operations, and their associated technologies. It would be advantageous for the CFE to be experienced in the following:

- **International safeguards approaches, including inspection and verification activities**
- **Design information verification**
- **Safeguards monitoring and verification technologies, and the detection of undeclared nuclear activities**
- **Detection of undeclared activities**
- **Project management and technical report writing**

LANGUAGE(S)

- proficiency required

Fluency in written and spoken English.

- other languages preferred

German, French, Russian, Spanish, Arabic and Chinese.

3. **WORK ROLE:** What does the job require the incumbent to do (i.e. describe the analysis, interpretation, adaptation, innovation, planning, co-ordination, and directing that the job requires)?

The post-holder must be able to identify, initiate, organize, monitor, evaluate and implement developed and commercial techniques and systems for inspectors, mainly in the area of suitable and appropriate technologies for the detection of undeclared activities and the monitoring of declared locations. The post-holder will be required to liaise with the Department's Support Programme Administration (SPA), safeguards operations divisions and, technical counterparts in contributing Member State, national and private sector laboratories.

4. What subject matter (diversity of work) does the job cover and what is the depth of treatment of the subject matter?

The work requires the CFE to have a broad knowledge of the NFC, particularly the materials and processes involved in each process and processing method, and in a broad range of technologies that can be used by the IAEA for the effective detection and monitoring of undeclared activities. The work also requires the CFE to interact with representatives of Member States in coordination of research and development work and other recognised international experts and R&D organizations to development and evaluate technology solutions to IAEA defined needs.

5. Describe the control exercised or guidance given by the supervisor in terms of planning, controlling and reviewing the incumbent's work, e.g. how often do you meet, how are priorities handled, how is work achieved, how are instructions given.

The CFE will work under the general direction of the SGTS-08 Project manager, and with reference to Departmental strategies, priorities and needs regarding verification and detection technologies. He/she will contribute the formulation of overall plans and implementation strategies and make recommendations to the Project Manager on novel equipment and methodology development.

6. Indicate which regulations, manuals, precedents, policies, or other administrative and technical guidelines apply to the incumbent's work, and to what extent the incumbent is permitted to interpret, deviate from, or establish new guidelines:

INFCIRC 66, 153 or 540

Agency rules, regulations and guidelines, including those in the Safeguards Manuals, Instruction Manual for Instruments, Policy Papers, implementation practices and relevant Departmental procedures.

SGTS-08 Project Plan and Divisional procedures (in particular SG-TIE-14 covering the implementation of inspection approved equipment).

7. With whom (indicate title only), for what purpose, and how often is the incumbent required to have contacts in the job? (Describe the most typical, not the most unusual, contacts, e.g. to obtain information, to seek funding, to commit the Agency on)

Inside the IAEA

Person(s) / Title	Purpose	Frequency
SGTS-08 Project Manager	Receive instructions, review results, and provide feedback.	Weekly, or as necessary
	Evaluate equipment and technique proposals from a broad range of sources, including National and private sector laboratories	
SPA	In liaison with the Support Programme Administrator, solicit and review techniques and equipment proposals from Member States	
Other Support Divisions	Review current needs for future detection and verification activities and advice on implementation and procedures.	Weekly, or as often as required

Outside the IAEA

Person(s) / Title	Purpose	Frequency
R&D Organizations	In response to specific Safeguards needs, review work underway at national and private sector R&D laboratories and educational institutions on suitable methods and/or equipment for the detection of undeclared material and activities.	Weekly, or as often as required
Equipment Manufacturers	Liase with equipment manufactures in the evaluation of candidate techniques and instruments	Weekly
Representatives of Member State Support Programmes	Receive, evaluate and discuss new task proposals	Monthly, or as often as required
Facility operators	Liaison during field demonstration and evaluation exercises.	1-2/year
External Experts	Discussions and information exchanges regarding proposed new techniques	Monthly, or as often as required

8. Describe the most important type(s) of decisions the incumbent is authorized to take and why these are important:

The post-holder will review technical proposals from various sources and following evaluation with respect to Departmental needs, make recommendations as to the feasibility, cost-effectiveness and appropriateness as effective detection and verification tools for inspection use.

9. Describe the most important types of proposals expected of the incumbent in the job and why these are important:

The post-holder will recommend to the Department appropriate instrumentation, approaches and strategies for the detection of undeclared activities. The post-holder will also propose schedules and work plans for the implementation of a particular technique or instrument for inspection use.

10. Describe the most damaging involuntary error(s) that could be made in the work and the effect(s) that would result:

Poor, or flawed, decision making may result in incorrect methods being adopted, unreliable or ineffective equipment being produced, or an inappropriate strategy being followed. All will undermine the Agency's

credibility with its Member States and the international community.

11. Total staff in organizational units supervised by incumbent. (Note: "supervised" means "held accountable for the work.") This is the only factor that is not applicable to all posts.

Professional and higher level staff

None

Technical and administrative support staff

None

This is an accurate and complete description of the details of the job.

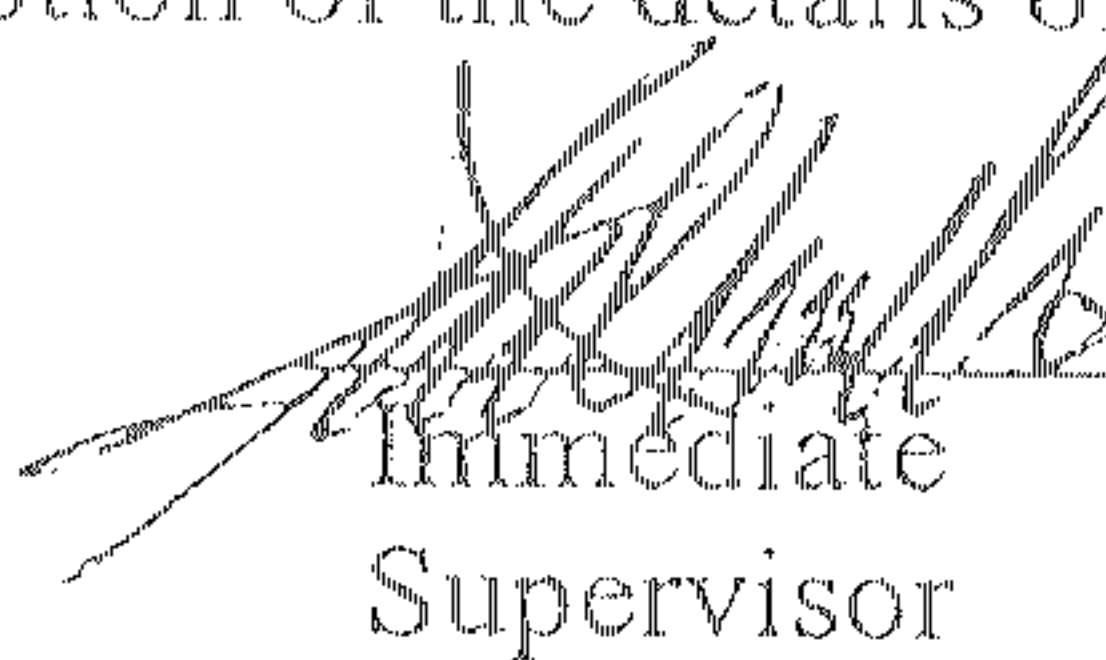
Incumbent _____ Date _____

Printed name: _____

Division Director _____

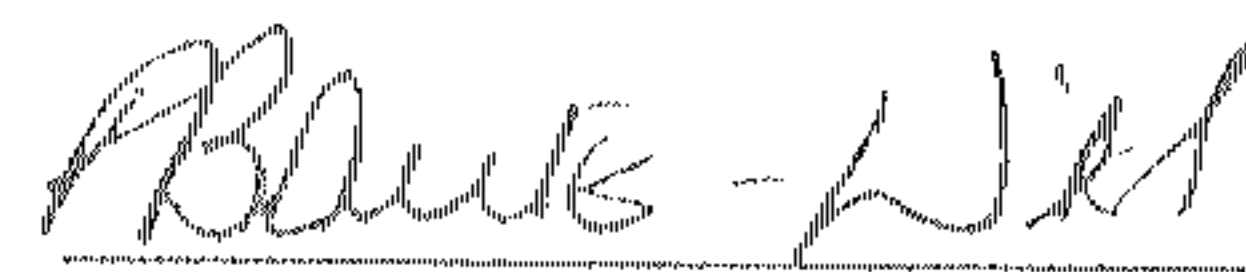
Date _____

Printed name: **Nikolai Khlebnikov**


Immediate
Supervisor

Printed
Name:

Julian Whichello


Administrative
Officer

Printed
Name:

Anne Baute-Wiles

2006-06-13.
Date

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Date

(Personnel - JD/P Apr. 1998)